Fisher success and adaptation to plantation systems in Chile

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Chilean Fishers 30 organizations

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Chilean Fisheries Management

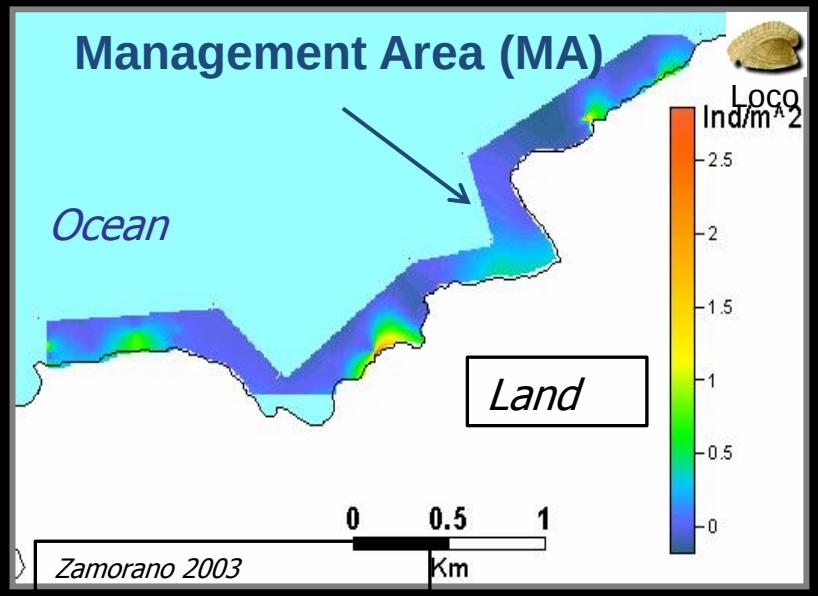
Loco (*Concholepas concholepas*)

Chilean Fisheries Management

Sustainable Harvest	Crash	Recovery (Management Areas)
1970's	1980's	2000's

Consequences of Territorial User Rights Fisheries

1. **Locos available for harvest**
2. **Restricted access & movement**
3. **Introduced new fishers (knowledge)**
4. **Loco biological condition & price varies**



Territorial User Rights Fisheries MA

Skipper Effect Theory

- Some fishers catch more fish than others
- Explained by experience and/or technology
- Management implications overfishing

Acheson (1977); Palsson 1994; Palsson & Durrenberger 1982



1-What factors account for fisher success?

2-How are fishers adapting to environmental change?

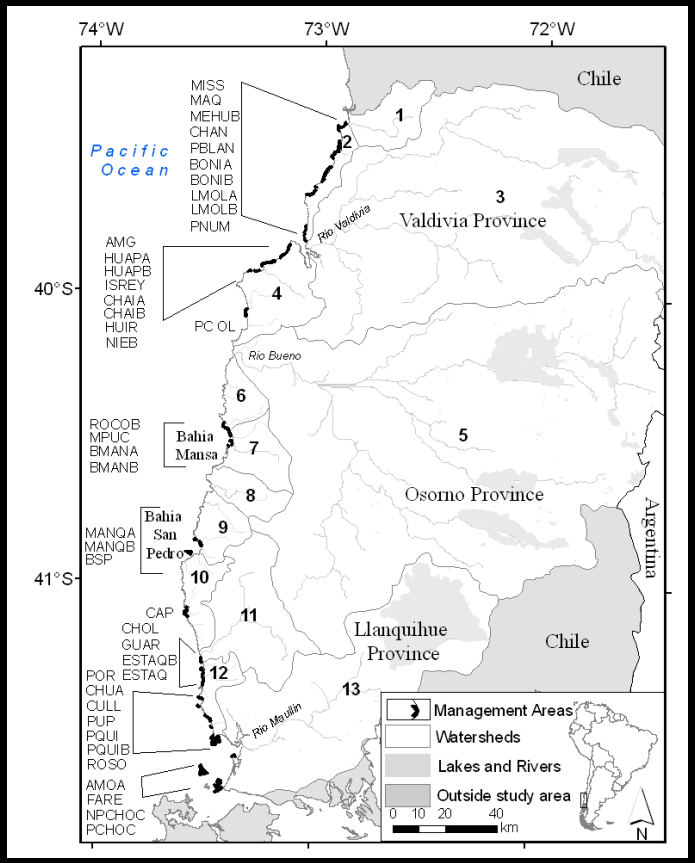


The fisheries

Loco
(*Concholepas concholepas*)

Congrio
(*Genypterus* sp.)

Research Design: space for time substitution

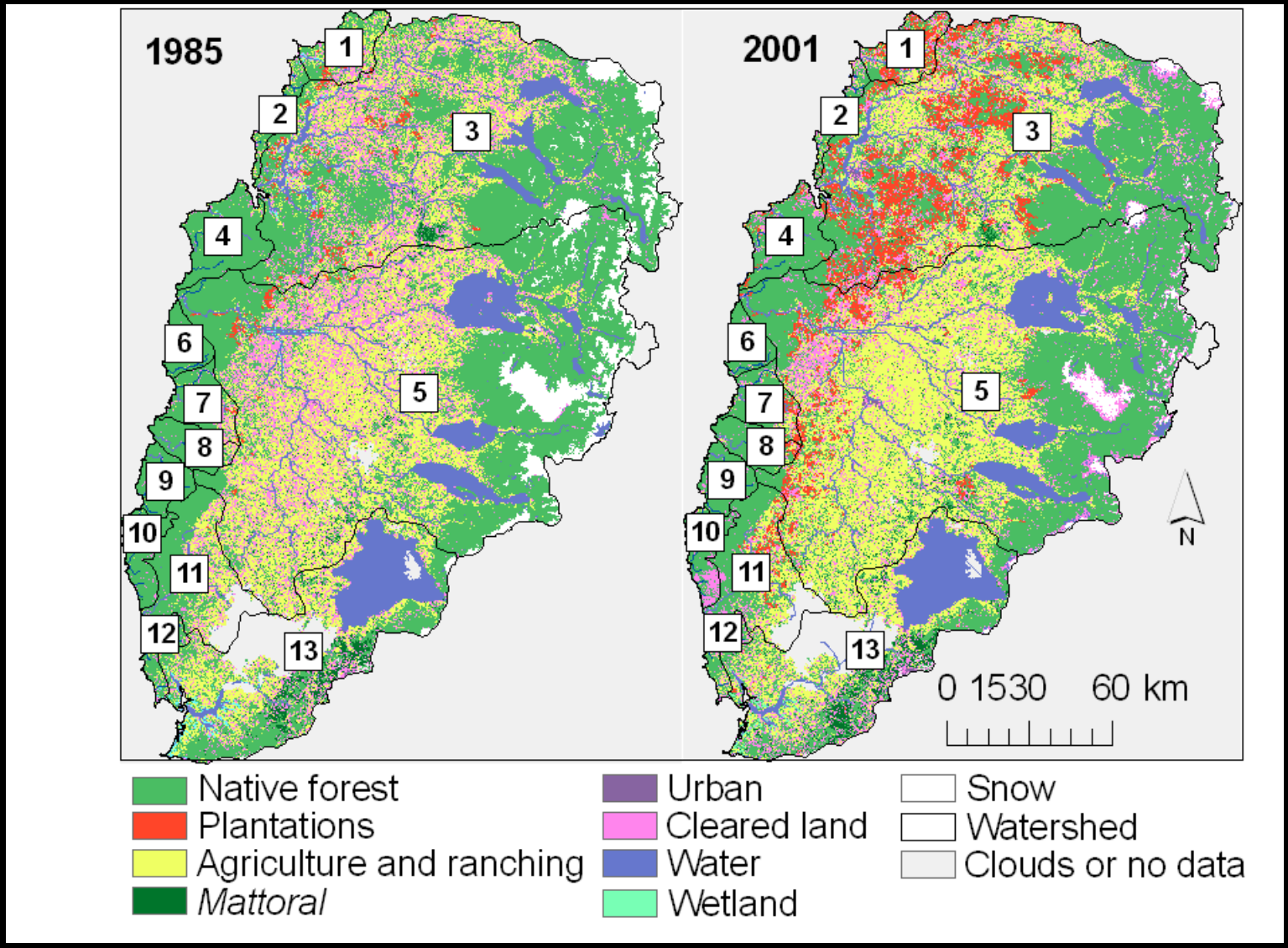


southern Chile● similar coastal shelf ● little el niño influence & upwelling ● similar benthic & fish fauna ● landscape change varies

(Fernandez et al. 2000; Lancellotti & Vasquez 2000; Camus 2001)

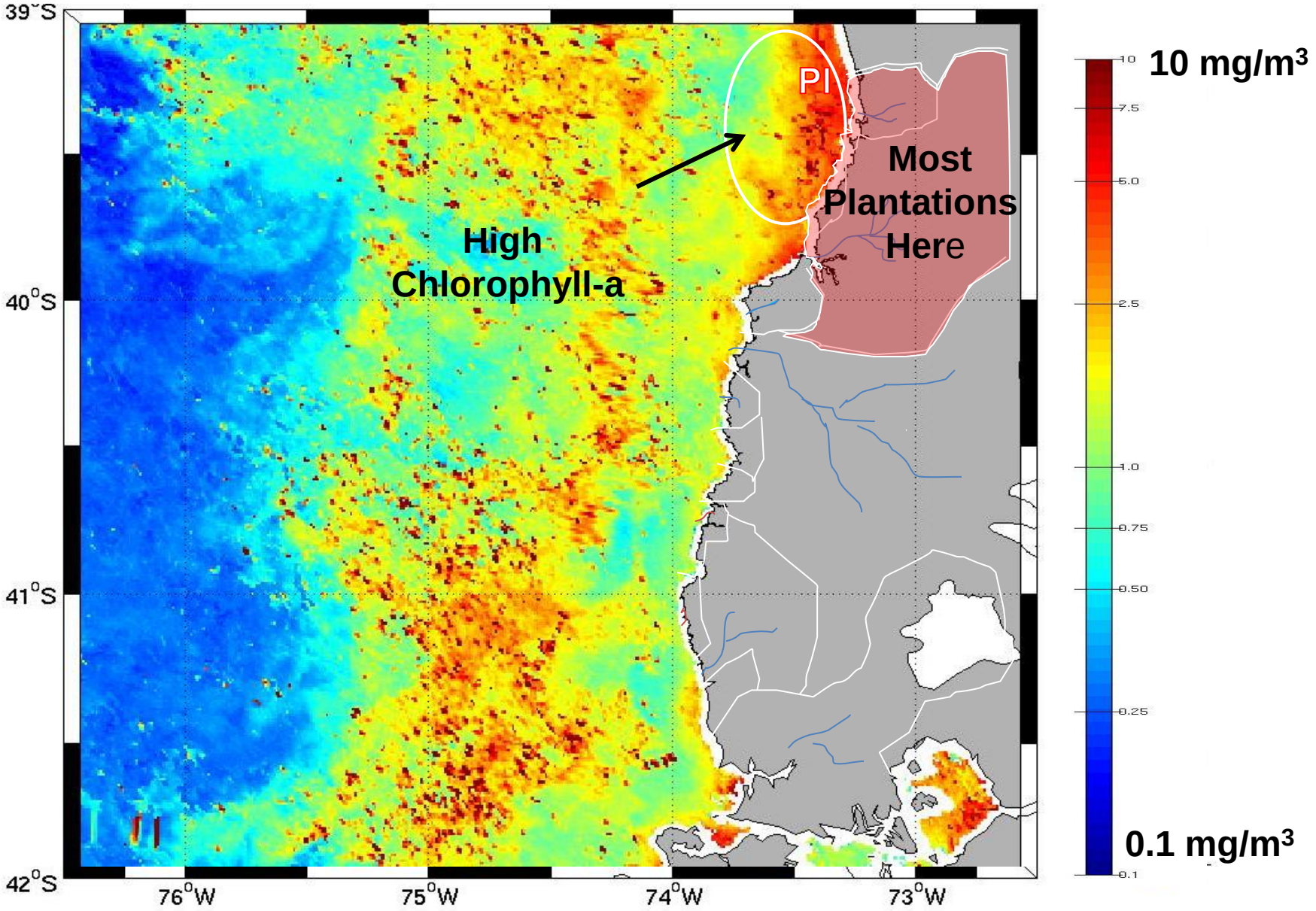
Forest Plantations Increased from 1985-2001

Plantaciones forestales se incrementaron desde 1985 al 2001



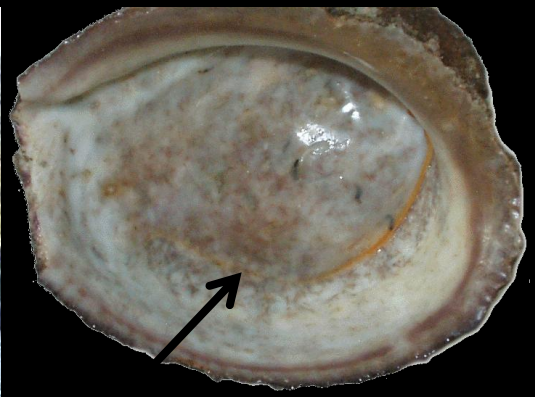
Supervised classification of October 5, 1985 (Landsat TM, path 233, rows 87-89) and November 29, 2001 (Landsat ETM, path 233, rows 87-89) . Images were atmospherically and topographically corrected. The numbers in white boxes correspond to watersheds in study site.

Chlorophyll-a concentration higher in nearshore influenced by plantations



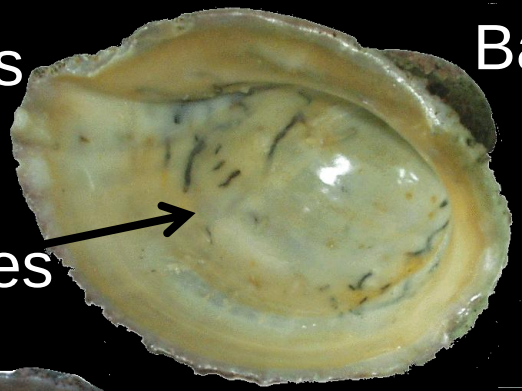
SeaWiFS satellite images from winter (April to July) 2003/Imágenes satelitales SeaWiFS del invierno (Abril-Julio) del 2003

Loco shells from plantation-influenced watersheds have more epibionts & endobionts.

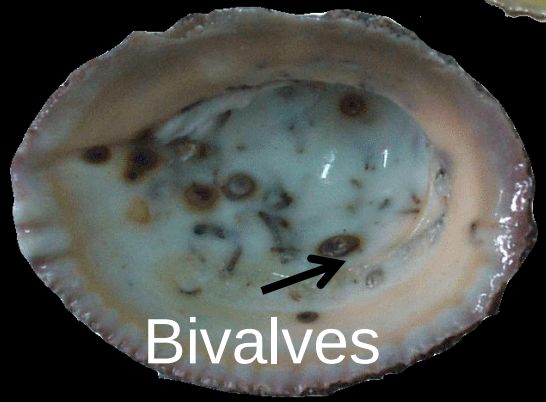


Phoronids

Barnacles



Polychaetes



Bivalves

clean shell

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Northern Study Site